

Applicants respectfully request reconsideration and withdrawal of the rejections of the claims in view of the following remarks.

### **REMARKS**

#### **A. Status of the Pending Claims and Explanation of the Amendments**

Of the five originally filed claims, claims 1, 2, 4, and 5 are pending and claim 3 has been cancelled. In this paper, Applicants have added new claims 6-9. Accordingly, claims 1, 2, 4, and 5-9 are currently presented for examination.

Support for new claims 6-9 is found generally throughout the specification and claims as originally filed. For example, support for claim 6 is given by original claim 1, as well as by pages 3-5 of the specification. In particular, support for the term “a montmorillonite K-10 solid acid catalyst” as recited in claim 6 is given by Examples 1-3 of the specification, which disclose reactions using montmorillonite K10 catalyst and a modified montmorillonite K10 solid acid catalyst. Support for claim 7 is given by page 3, lines 14-15. Support for claims 8 and 9 is found at the last two lines of page 3 of the specification.

Applicants believe that no new matter has been added by these amendments.

Currently, claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. §112, ¶1. According to the Office Action, the expression “modified montmorillonite K-10 solid acid” lacks support and description in the specification as filed. The Office Action also alleges on page two that the Applicants have failed to satisfy the enablement requirement of 35 U.S.C. §112, ¶1 and alleges on page three that the Applicants have failed to satisfy the best mode requirement of 35 U.S.C. §112, ¶1.

B. Response to Rejections under 35 U.S.C. §112, ¶1

Applicant respectfully traverses the rejection of claims 1, 2, 4, and 5 under 35 U.S.C. §112, ¶1. Briefly, Applicants believe that the Office Action's interpretation of the written description requirement is overly broad.

1. The Office Action's Interpretation of the Written Description Requirement is Overly Broad

According to the Office Action,

[t]he expression "modified montmorillonite K-10 solid acid" lacks support and description in the invention as filed. At best, the specification supports only the specific "modified montmorillonite K10 solid acid" exemplified in the examples. The single "modified montmorillonite K-10 solid acid" of the examples is modified in a specific manner and is not drawn to a generic concept as now claimed. [Office Action, page 2].

Applicants respectfully disagree. According to the MPEP, "there may be situations where one species adequately supports a genus". MPEP §2163(II)(a)(3)(a)(ii) [i.e., page 2100-174 of the 8th Edition of the MPEP incorporating Revision No. 2]. Citing *In re Herschler* 591 F.2d 693, 697, 200 USPQ 711, 714 (CCPA 1979), the MPEP notes that "disclosure of corticosteroid in DMSO [is] sufficient to support claims drawn to a method of using a mixture of a 'physiologically active steroid' and DMSO, because "use of known chemical compounds in a manner auxiliary to the invention must have a corresponding written description only so specific as to lead one having ordinary skill in the art to that class of compounds." [MPEP, p. 2100-174, emphasis added].

Here, Applicant's claim 1 recites, *inter alia*, "modified montmorillonite K-10 solid acid". As montmorillonite K-10 is generally known to be a solid and acidic, the question

becomes whether “modified montmorillonite K-10” would be “so specific as to lead one having ordinary skill in the art to that class of compounds” as required by *In re Herschler*.

Applicant respectfully assert that it does. To support this assertion, Applicant refers back to the review article “Aniline alkylation over solid acid catalysts” [Applied. Catalysis A: General 199 (2000) 1-31], which was previously submitted in connection with Applicant’s Declaration under 37 C.F.R. §1.132. On page 4, col. 1 of the review article is a discussion about various methods of “modifying” clays. These include “acid leaching” and “pillaring with polyhydroxy metal cations or metal clusters”. Additional modification methods include “impregnation of metal oxide such as vanadia, chromia, zirconia, and alumina”. [review article, p. 4, col. 1]. Thus, Applicants respectfully assert that the term “modified montmorillonite K-10 solid acid” thus refers to a genus that is well-known in the art [namely, the genus of montmorillonite K-10 catalysts that have been modified in the manner set forth in the review article].

Further support of Applicants’ view is found on the Internet. For example, an internet search on **www.google.com** using the keywords “modified montmorillonite K-10” reveals 430 hits [see accompanying attachment showing a printout from Google]. Importantly, the first hit (i.e., the most relevant) concerns “vanadia modified montmorillonite K-10”. This is significant for two reasons. First, it shows that the term “modified montmorillonite K10” is a term that is used in the art. Second, it falls within the genus that is disclosed on page 4 of the review article “Aniline alkylation over solid acid catalysts” cited above, indicating that the term “modified montmorillonite K10” is commonly understood in the art to refer to a particular class of compounds, as required by *In re Herschler*.

With respect to the argument concerning the alleged failure to disclose the “best mode”, Applicants respectfully assert that the best mode has been disclosed in the application, by the recitation of the catalysts on pages 3-6 of the specification, including “modified montmorillonite K-10 solid acid”, as understood by those of ordinary skill in the art. Further, Applicants are ever mindful that best mode must be disclosed, but are unaware of any requirement that the specification needs to identify specifically which of the many embodiments is the actual best mode. Indeed, upon review of several U.S. patents, Applicants have observed that many allowed patents do not specifically identify the best mode from the embodiments described in the specification.

With respect to the enablement issue, Applicant’s respectfully assert that one of ordinary skill in the art would know how to make the “modified montmorillonite K-10 solid acid” recited in Applicant’s claims, as that genus of compounds is well known. Applicants further assert that when a compound or a class of compounds is well known, there is no need to include their synthesis in the specification. By way of example, Applicants note that certain chemical reactions will take place in certain types of solvents (e.g., alcohols). In those situations, Applicants believe that the U.S.P.T.O. would not require a detailed synthesis of the solvents of the reaction (e.g., ethanol), as the solvents are ancillary to the reaction. Applicants believe that the same is true for Applicant’s “modified montmorillonite K-10 solid acid”, as recited in Applicants’ claims.

For at least these reasons, Applicants believe that claims 1, 2, 4, and 5 satisfy the written description requirement and the rejections of these claims under 35 U.S.C. §112, ¶1 should be withdrawn.

**CONCLUSION**

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

**AUTHORIZATION**

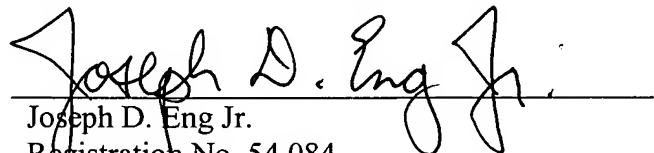
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Respectfully submitted,  
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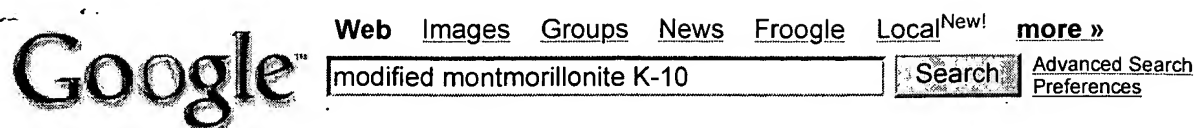
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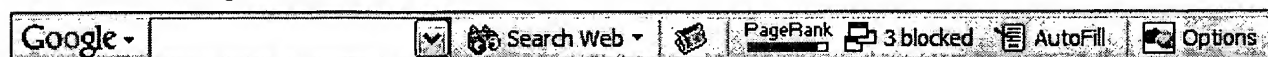
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